

Serial No. 09/963687

- 2 -

Art Unit: 2114

In the claims:

1. (cancelled)

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (cancelled)

6. (cancelled)

7. (cancelled)

8. (currently amended) A method for operating a self-monitoring mechanism in fault-tolerant distributed dynamic network systems, said method comprising:

detecting in a master server and at least one back-up server that an inconsistent situation in which more than a desired number of master servers exist; and

Serial No. 09/963687

- 3 -

Art Unit: 2114

recovering, if said inconsistent situation is detected by said detecting, from said inconsistent situation to create a consistent situation in which the desired number of master server exists,

wherein said detecting an inconsistent situation comprises identifying a master server that is not a name server master server, wherein said name server master server is a server defined as a master in a name server, said master server that is different from a name server master server causing said inconsistent situation; or a master of a back-up server that is not a name server master server, the master of said back-up server causing said inconsistent situation, and wherein said recovering from said inconsistent situation comprises: setting the master of a server, identified by either said identifying a master server or said identifying a master of a back-up server, to be a name server master server; synchronizing the state of said server with the state of said name server master server; terminating said server if said synchronizing is not successful; and setting the state of said server as a back-up, if said synchronizing is successful, and

~~The method according to claim 7,~~ wherein said synchronizing comprises: downloading the state of a name server master server from said name server master server to said server; and aligning the state of said server with said state of the name server master server, downloaded from said name server master server.

9. (currently amended) A method for operating a self-monitoring mechanism in fault-tolerant distributed dynamic network systems, said method comprising:

Serial No. 09/963687

- 4 -

Art Unit: 2114

detecting in a master server and at least one back-up server that an inconsistent situation in which more than a desired number of master servers exist; and

recovering, if said inconsistent situation is detected by said detecting, from said inconsistent situation to create a consistent situation in which the desired number of master server exists,

wherein said detecting an inconsistent situation comprises identifying a master server that is not a name server master server, wherein said name server master server is a server defined as a master in a name server, said master server that is different from a name server master server causing said inconsistent situation; or a master of a back-up server that is not a name server master server, the master of said back-up server causing said inconsistent situation, and

wherein said recovering from said inconsistent situation comprises: setting the master of a server, identified by either said identifying a master server or said identifying a master of a back-up server, to be a name server master server; synchronizing the state of said server with the state of said name server master server; terminating said server if said synchronizing is not successful; and setting the state of said server as a back-up, if said synchronizing is successful, and

~~The method according to claim 7, further comprising:~~ comparing, if said synchronizing is successful, the priority of said server with the priority of said name server master server, said priority being defined according to at least one criterion; and setting the state of said server as a master, if the priority of said state is higher than the priority of said name server master server.

Serial No. 09/963687

- 5 -

Art Unit: 2114

10. (original) The method according to claim 9, wherein said at least one criterion includes at least one of computing speed and capacity.

11. (currently amended) A method for operating a self-monitoring mechanism in fault-tolerant distributed dynamic network systems, said method comprising:

detecting in a master server and at least one back-up server that an inconsistent situation in which more than a desired number of master servers exist; and

recovering, if said inconsistent situation is detected by said detecting, from said inconsistent situation to create a consistent situation in which the desired number of master server exists,

~~The method according to claim 4, further comprising:~~ initializing a time-out condition; setting up a timer; and performing said detecting when said timer achieves said time-out condition-,

wherein said detecting an inconsistent situation comprises identifying a master server that is not a name server master server, wherein said name server master server is a server defined as a master in a name server, said master server that is different from a name server master server causing said inconsistent situation; or a master of a back-up server that is not a name server master server, the master of said back-up server causing said inconsistent situation.

12. (cancelled)

Serial No. 09/963687

- 6 -

Art Unit: 2114

13. (currently amended) A method for operating a self-monitoring mechanism in fault-tolerant distributed dynamic network systems, said method comprising:

detecting in a master server and at least one back-up server that an inconsistent situation in which more than a desired number of master servers exist; and

recovering, if said inconsistent situation is detected by said detecting, from said inconsistent situation to create a consistent situation in which the desired number of master server exists,

triggering a server to perform said detecting. ~~The method according to claim 12,~~ wherein said triggering includes triggering using a time-out mechanism; said triggering includes triggering by a master server; and said triggering includes triggering by a name server when said name server detects multiple server IDs that correspond to a same name.

14. (original) The method according to claim 13, wherein said triggering using a time-out mechanism includes triggering using a time-out mechanism based on a timer.

15. (original) The method according to claim 13, wherein said triggering by a master server includes triggering when said master server is an original name server master server and when there is at least one different master server, registered in said name server that are not an original name server master server.

Serial No. 09/963687

- 7 -

Art Unit: 2114

16. (cancelled)

17. (cancelled)

18. (cancelled)

19. (currently amended) A method for operating a name server, said method comprising: detecting multiple registrations of master servers; and retaining, when multiple registrations of master servers are detected, one master server registration according to a criterion, wherein said multiple registrations of master servers use a same server group's name with different server IDs, and ~~The method according to claim 18,~~ wherein said retaining includes keeping a registration of a master server that has the lowest server ID.

20. (cancelled)

21. (cancelled)

22. (cancelled)

23. (cancelled)

Serial No. 09/963687

- 8 -

Art Unit: 2114

24. (cancelled)

25. (currently amended) A self-monitoring mechanism in fault-tolerant distributed dynamic network systems, comprising:

a detection mechanism for operation in each of a master server and at least one back-up server for detecting an inconsistent situation in which more than a desired number of master servers exist; and

a recovery mechanism for operation in each of a master server and at least one back-up server for recovering, if said inconsistent situation is detected by said detection mechanism, from said inconsistent situation to create a consistent situation in which said desired number of master servers exist.

wherein said detection mechanism comprises: a trigger that reacts upon an external event to activate said detection mechanism to perform said detecting; a time-out mechanism for generating an activation signal, according to a time-out criterion, to start said detecting; and a detector for performing said detecting, said detector being activated by either said trigger or said time-out mechanism, and

~~The system according to claim 24,~~ wherein said external event includes when a name server detects more than the desired number of registrations of master servers.

Serial No. 09/963687

- 9 -

Art Unit: 2114

26. (cancelled)

27. (cancelled)

28. (cancelled)

29. (cancelled)

30. (cancelled)

31. (cancelled)

32. (cancelled)

33. (cancelled)

34. (cancelled)

35. (cancelled)

36. (cancelled)



Serial No. 09/963687

- 10 -

Art Unit: 2114

37. (cancelled)

38. (cancelled)

39. (currently amended) A computer readable medium having program code stored thereon, such that when the code is read and executed by a computer, the computer is caused to:

detect in a master server and at least one back-up server that an inconsistent situation in which more than a desired number of master servers exist; and  
recover, if said inconsistent situation is detected by said detecting, from said inconsistent situation to create a consistent situation in which the desired number of master server exists,  
wherein the code recorded on the medium further causes the computer to identify: a  
master server that is not a name server master server, wherein said name server master server is a  
server defined as a master in a name server, said master server that is different from a name server  
master server causing said inconsistent situation; or a master of a back-up server that is not a  
name server master server, the master of said back-up server causing said inconsistent situation,  
and

wherein the code recorded on the medium further causes the computer to: set the master  
of a server, identified by either said identifying a master server or said identifying a master of a  
back-up server, to be the name server master server; synchronize the state of said server with the

Serial No. 09/963687

- 11 -

Art Unit: 2114

state of said name server master server; terminate said server if said synchronize is not successful; and set the state of said server as a back-up, if said synchronize is successful, and

The medium according to claim 38, wherein the code recorded on the medium further causes the computer to: download the state of a name server master server from said name server master server to said server; and align the state of said server with said state of the name server master server, downloaded from said name server master server.

40. (currently amended) A computer readable medium having program code stored thereon, such that when the code is read and executed by a computer, the computer is caused to:

detect in a master server and at least one back-up server that an inconsistent situation in which more than a desired number of master servers exist; and  
recover, if said inconsistent situation is detected by said detecting, from said inconsistent situation to create a consistent situation in which the desired number of master server exists,  
wherein the code recorded on the medium further causes the computer to identify: a  
master server that is not a name server master server, wherein said name server master server is a  
server defined as a master in a name server, said master server that is different from a name server  
master server causing said inconsistent situation; or a master of a back-up server that is not a  
name server master server, the master of said back-up server causing said inconsistent situation,  
and  
wherein the code recorded on the medium further causes the computer to: set the master of a  
server, identified by either said identifying a master server or said identifying a master of a back-

Serial No. 09/963687

- 12 -

Art Unit: 2114

up server, to be the name server master server; synchronize the state of said server with the state of said name server master server; terminate said server if said synchronize is not successful; and set the state of said server as a back-up, if said synchronize is successful, and

~~The medium according to claim 38,~~ wherein the code recorded on the medium further causes the computer to: compare, if said synchronize is successful, the priority of said server with the priority of said name server master server, said priority being defined according to at least one criterion; and set the state of said server as a master, if the priority of said state is higher than the priority of said name server master server.

41. (currently amended) A computer readable medium having program code stored thereon, such that when the code is read and executed by a computer, the computer is caused to:

detect in a master server and at least one back-up server that an inconsistent situation in which more than a desired number of master servers exist; and recover, if said inconsistent situation is detected by said detecting, from said inconsistent situation to create a consistent situation in which the desired number of master server exists,

~~The medium according to claim 35,~~ wherein the code recorded on the medium further causes the computer to: initialize a time-out condition; set up a timer; and performing said detecting when said timer achieves said time-out condition-,

wherein the code recorded on the medium further causes the computer to identify a master server that is not a name server master server, wherein said name server master server is a server defined as a master in a name server, said master server that is different from a name server

Serial No. 09/963687

- 13 -

Art Unit: 2114

master server causing said inconsistent situation; or a master of a back-up server that is not a name server master server, the master of said back-up server causing said inconsistent situation.

42. (cancelled)

43. (currently amended) A computer readable medium having program code stored thereon, such that when the code is read and executed by a computer, the computer is caused to:

detect in a master server and at least one back-up server that an inconsistent situation in which more than a desired number of master servers exist; and  
recover, if said inconsistent situation is detected by said detecting, from said inconsistent situation to create a consistent situation in which the desired number of master server exists,  
wherein the code recorded on the medium further causes the computer to trigger a server to perform said detect. ~~The medium according to claim 42,~~ wherein said trigger includes triggering using a time-out mechanism; said trigger includes triggering by a master server, and said trigger includes triggering by a name server when said name server detects multiple server IDs that correspond to a same name.

44. (original) The medium according to claim 43, wherein said trigger using a time-out mechanism includes a trigger using a time-out mechanism based on a timer.

45. (original) The medium according to claim 43, wherein said triggering by a master server

Serial No. 09/963687

- 14 -

Art Unit: 2114

includes triggering when said master server is an original name server master server and when there is at least one different master server, registered in said name server that is not the original name server master server.

46. (cancelled)

47. (cancelled)

48. (cancelled)

49. (currently amended) A computer readable medium having program code stored thereon, such that when the code is read and executed by a computer, the computer is caused to:

detect by a name server multiple registrations of master servers; and

retain, when multiple registrations of master servers are detected, one master server registration according to a criterion. ~~The medium according to claim 47,~~ wherein said retaining includes keeping a registration of a master server that has the lowest server ID.